

MIGUEL JIMENEZ

FULL-STACK SOFTWARE ENGINEER AND RESEARCHER

EXPERIENCE

- 2016
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present
- **Ph.D. Student/Researcher - IBM Project Lead Student**
IBM Advanced Studies + University of Victoria Victoria, Canada
• Conduct research and collaborate with other teams internal and external to the university to develop deployment tools for emerging technologies, such as Self-Adaptive and Cyber-Physical Systems
 - **Graduate Research Assistant**
Universidad Icesi Cali, Colombia
• Identified challenges in dynamic performance monitoring of Self-Adaptive Systems and proposed technical solutions to advance the state of the art
• Designed and implemented distributed applications, following the SOA philosophy, to realize dynamic performance monitoring at runtime
• Managed the computing resources of the DRISO research group's computing grid (~15 physical machines)
 - **Freelance Developer** Cali, Colombia
• Designed and implemented an online auction application for the Colombian headquarters of LaFranco laboratories, a pharmaceutical company
• Designed and implemented a management web application to support the Purchasing Department at Carvajal Espacios, a Colombian company leader in trends in design and office furniture
• Designed and implemented corporate websites and supporting sites (e.g., tutorials & tickets) for small Colombian companies, including SQL Soluciones Informáticas, Ecohotel el Castillo, Juan Felipe Velez Accountant and Z-Graphics

SELECTED PROJECTS

- 2015
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2017
- **Amelia** Carvajal UNIVERSIDAD ICESI
Universidad Icesi + Carvajal
• Amelia is a compact domain-specific language tailored for specifying and executing deployment workflows for distributed software systems
• We used Amelia's composable and extendable subsystems to specify and deploy 50+ architectural variations to improve the reference architecture of a software family and improve its performance and scalability
• Source code, documentation and evaluation are available online at github.com/unicesi/amelia and github.com/unicesi/amelia-evaluation
Technologies Java, Xtend, Xtext, Maven, Rultor
 - **Foodie** IBM University of Victoria
University of Victoria + IBM
• Foodie is a conversational kitchen assistant aiming at minimizing food wastage by optimizing the use of groceries and assist families in improving their eating habits through recipe recommendations, taking into account personal context (e.g., allergies and dietary goals) while helping reduce food waste and managing grocery budgets
• **Foodie Fooderson: A Conversational Agent for the Smart Kitchen** was published at CASCON'2017
Technologies Java, Maven, IBM Watson Conversation & Speech APIs
 - **Stacky**
• Stacky is a jQuery plugin that makes it easy to create user interfaces with panels that open horizontally. Panels can be opened, closed, expanded and collapsed. A panel can be opened in regular mode (pushed next to a panel) or in floating mode (absolute position)
• 245+ stars and 20+ forks on Github
• Source code and documentation are available at github.com/jachinte/jquery.stacky
Technologies JavaScript, jQuery, Sass, Grunt, Bower, npm

EDUCATION

- 2016
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2020
- **Ph.D. in Computer Science**
University of Victoria • GPA: 3.85 / 4 Victoria, Canada
Ongoing Deployment specification in the context of DevOps & Cyber-Physical and Self-Adaptive Systems
 - **M.Sc. in Software Engineering**
Universidad Icesi • GPA: 3.87 / 4 Cali, Colombia
Thesis [A Framework for Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Systems](#)
 - **B.E. in Systems Engineering**
Universidad Icesi • GPA: 3.21 / 4 Cali, Colombia
Thesis [PaSAni: A language for V&V of Functional Requirements at Runtime](#) (in Spanish)
 - **Courses**
• Entrepreneurship Laboratory with Mobile Technologies
Massachusetts Institute of Technology + Universidad Icesi
• Introduction to OpenStack
EDX

CONTACT INFO

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☎ +1 778-533-0364

SOCIAL LINKS

🐙 github.com/jachinte
🐦 twitter.com/jachinte

SKILLS

Computer Languages

Java, Xtend
JavaScript
C
Python
C#
Oz
Shell Script
SQL
HTML5
CSS3 & Pre-Processors

Technical Skills

Object-Oriented Programming
Service Component Architecture
Architecture Design
Language Engineering
Software Deployment
Build Automation
Infrastructure Provision
Continuous Delivery
Performance Monitoring
Data Mining (basic)

Languages

Spanish (native)
English (fluent)
French (basic)



PUBLICATIONS

Journal Articles

- H. Arboleda, A. Paz, M. Jiménez, and G. Tamura, "Development and Instrumentation of a Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Ing. Univ., vol. 20, no. 2, pp. 303-333, 2016.

Refereed Conference Proceedings

- Jiménez, M., Villegas, N. M., Tamura, G., and Müller, H. A.. 2017. [Deployment Specification Challenges in the Context of Large Scale Systems](#). In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON'17), 7 pages.
- Angara, P., Jiménez, P., Agarwal, K., Jain, H., Jain, R., Stege, U., Ganti, S., Müller, H. A.. 2017. [Foodie Fooderson A Conversational Agent for the Smart Kitchen](#). In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON 2017), 7 pages.
- Arboleda, H., Paz, A., Jiménez, M., Tamura, G., "A Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Computing Colombian Conference (10CCQ), 2015 10th, Bogota, 2015, pp. 55-62.

Refereed Symposiums, Workshops and Abstracts

- Jiménez, M., Villegas, N. M., Tamura, G., & Müller, H. (2018, July). Round-Trip Engineering in DevOps: Continuous Integration From Dev to Ops and Back. In Proceedings of 1st Workshop on DevOps, 2018 (pp. 1-10). LNCS (Pending submission).
- Jiménez, M., Villegas, N. M., Tamura, G., & Müller, H. (2018, July). Round-Trip Engineering in DevOps: Making the Infrastructure a Code Committer (Extended Abstract). In DEVOPS, 2018.
- Jiménez, M., Villota Gomez, A., Villegas, N. M., Tamura, G., & Duchien, L. (2014, September). [A Framework for Automated and Composible Testing of Component-based Services](#). In Maintenance and Evolution of Service-Oriented and Cloud-Based Systems (MESOCA), 2014 IEEE 8th International Symposium on the (pp. 1-10). IEEE.



POSTERS & TALKS

Round-trip Software Engineering in DevOps: Continuous Integration from Dev to Ops and Back

DEVOPS 2018, March 2018. Toulouse, France [\[Presentation\]](#)

URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)

Deployment Specification Challenges in the Context of Large-Scale Systems

CASCON, November 2017. Markham, Canada [\[Presentation\]](#), [Poster](#), [Petcha kutchu](#)

URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)

Cognitive IoT Recipe Maven

IdeaFest, March 2017. Victoria, Canada

IBM Canada LabWeek, May 2017. Markham, Canada

A Framework for Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Software Systems

CSER, November 2016. Markham, Canada [\[Presentation\]](#), [Petcha kutchu](#)

CASCON, November 2016. Markham, Canada [\[Poster\]](#)

Summer School on Informatics and Software Engineering, July 2015. Cali, Colombia [\[Poster\]](#)

A Framework for Automated and Composible Testing of Component-based Services

MESOCA 2014, September 2014. Victoria, Canada [\[Presentation\]](#)



TEACHING ASSISTANCE

University of Victoria

Victoria, Canada 📍

- Assistance Centre in Computer Science - Spring 2018
- Fundamentals of Programming with Engineering Applications - Falls 2016, 2017
- Data Structures I - Fall 2016

Universidad Icesi

Cali, Colombia 📍

- Web programming (Computer Tech Club) - Springs 2012, 2013
- Data Structures and Algorithms - Spring 2011

HONORS & AWARDS

2018

- UVic Graduate Award

2017

- Howard E. Petch Research Scholarship
- UVic Graduate Award
- [Cleanest code at HackUVic](#) 🤖

2016

- University of Victoria Fellowship Doctoral
- IBM CAS Student Grant

2014

- Universidad Icesi Fellowship Master
- Student Loan Forgiveness —*Colombian Institute of Educational Credit and Technical Studies Abroad*

2009

- Universidad Icesi Icesos Scholarship
- Dean's list without merit scholarship during semesters VI, VII, VIII, & IX